



The Raleigh County Landfill: Visionary Plans Ahead of the Curve

January 7, 2003

Your RCSWA Team



**William
Patton and
James Allen
in front of
RCSWA's
administrative
offices.
April 2002.**

About the Raleigh County Solid Waste Authority

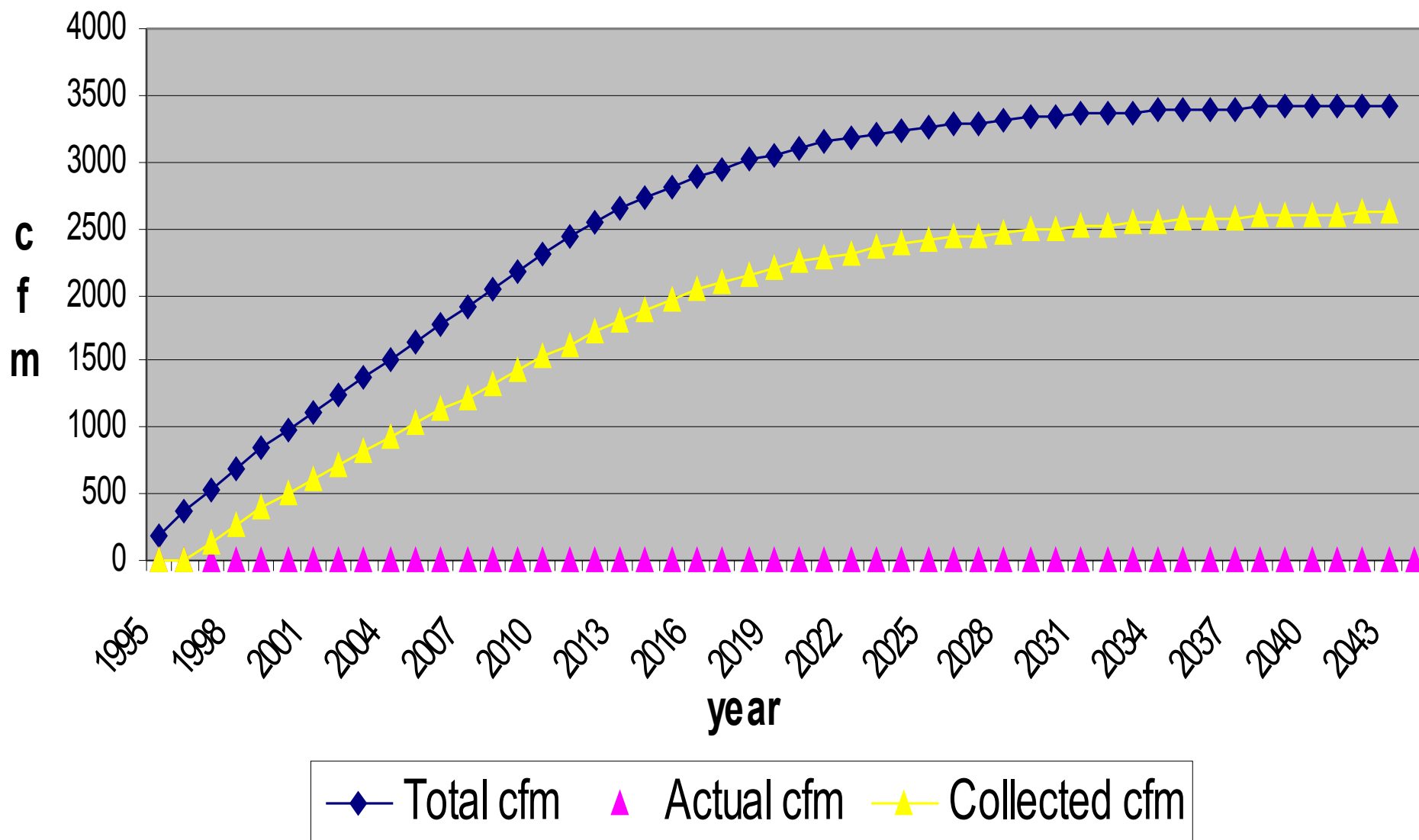


- ◆ Landfill has been an integral part of the Beckley, WV community for decades
- ◆ Good Neighbor:
 - Work with coal industry and coal towns
 - Keep buffer zone litter free
- ◆ Community Steward: RCSWA's community programs include:
 - Community Free Day
 - Litter Control Program
- ◆ Educator:
 - Outreach/education campaigns about programs and services.
- ◆ The landfill enjoys a positive community image and a supportive county government.

About the Raleigh County Landfill

- ◆ **Owned and operated by the Raleigh County Solid Waste Authority (RCSWA).**
- ◆ **Consists of two sites, a closed site and a new, state-of-art landfill.**
- ◆ **Two sites contain 1.6 million tons of waste**
 - too small to be subject to the NSPS/EG
- ◆ **The county receives trash from counties in southern WV**
 - Intake expected to increase by 4-5% each year until 2011
 - After 2011, intake expected to level off at about 150,000 tons per year until its proposed closure in 2075
- ◆ **The closed, 25-acre site has 25 passive vents. The 25 acre active site does not have a gas collection system installed.**

Raleigh County Landfill Emissions Model



The Plan

- ◆ **RCSWA's plan is create an innovative waste management and LFG strategy that combines an economic development zone, renewable energy park, and community-gathering place at the landfill site.**



Part One – Economic Development Zone

- ◆ **Develop a LFG powered recycling facility**
- ◆ **Attract a business to site its facility in the buffer zone; use additional LFG**
- ◆ **Create economic development and jobs in Beckley, WV**



Anticipated Benefits: Economic

- ◆ **Economic benefits to the county**
 - **Savings on power for recycling facility**
 - **Possible creation of new jobs**
 - **Emissions credits may add additional value**
 - **Other intangible economic benefits**
- ◆ **New Industry**
 - **Receiving low-cost, renewable power**
 - **Ample land and access in Raleigh County, WV**
 - **Available work force**

Part Two – Community Gathering Place

- **Host and facilitate educational and recreational facilities**
- **Study the feasibility of constructing a par 3 golf course on the old site.**
- **Study the feasibility of recycling trashed trailers**
 - Use for green houses
 - Use for classrooms/educational facilities
- **Create complimentary educational curriculum for local universities, colleges, and K-12 schools**



Part Three – Renewable Energy Park

◆ Landfill Gas

- Recycling Center
- Future Business
- Other applications: Golf Course, Green House, LNG for vehicle fleet

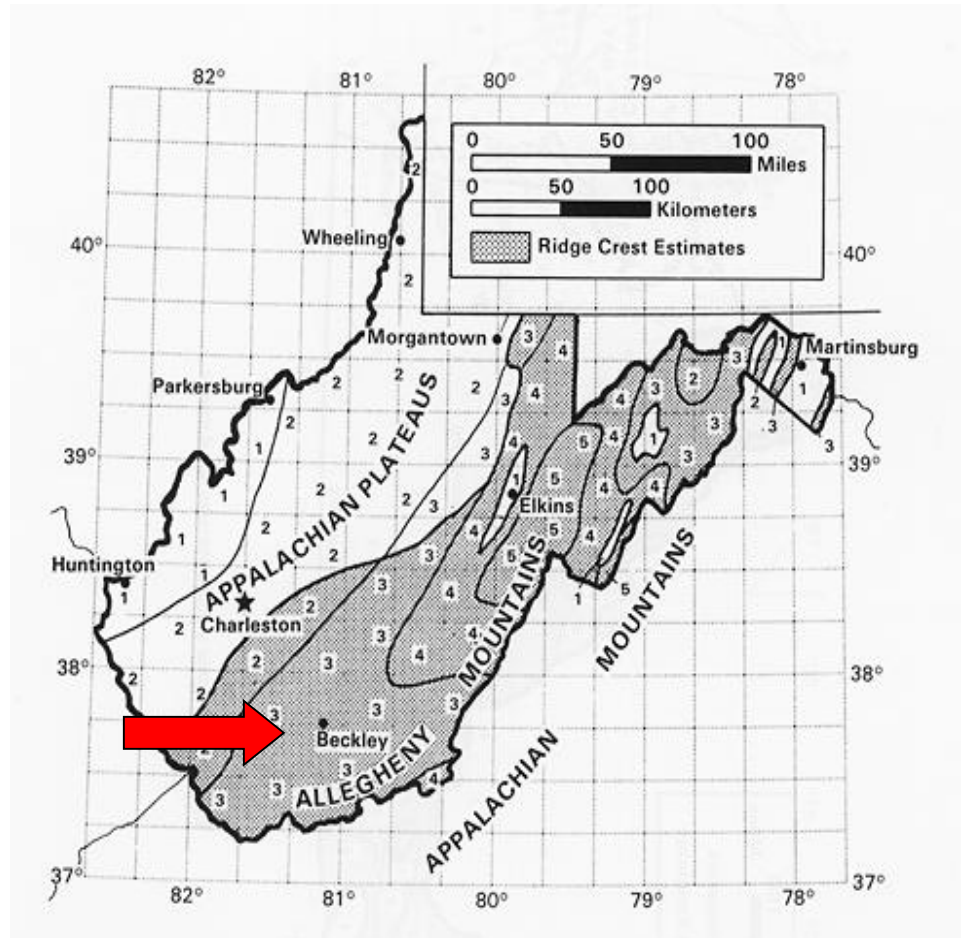
◆ Coal bed/mine methane

- Capture & inject methane into natural gas pipeline

◆ Wind

- Class three winds and ample land make wind attractive
- Wheel electricity into the grid

Slide 10



WV annual average wind power,
<http://rredc.nrel.gov>



Anticipated Benefits: Emissions Reductions

- ◆ **2003: 0.029 MMTCE per year (0.106 MMTCO₂E/year)**
 - Equivalent of planting 36,000 acres of forest
 - Equivalent to offsetting 576 rail cars of coal
 - Equivalent to removing 25,920 polluting cars the road
 - Enough power to heat 7,844 homes

- ◆ **2011: 0.072 MMTCE (0.275 MMTCO₂E) each year**
 - Equivalent to planting over 90,000 trees
 - Equivalent to offsetting 1,440 railcars of coal
 - Equivalent to removing 64,800 polluting cars from the road
 - Enough power to heat 20,000 homes.

- ◆ **Over the landfill's 75-year life, beneficial use projects will reduce emissions by 4.811 MMTCE (18.342 MMTCO₂E).**

Next Steps: Overcome Information Barriers

- ◆ **Information Barriers Exist, conduct research to:**
 - **Determine if wind classification is accurate**
 - **Determine if RCSWA has subsurface mineral rights**
 - **Determine costs and financing for each renewable energy source and other aspects of the project**
 - **Find environmentally friendly companies who may be interested in locating in WV**

Next Steps: Overcome Financing Barriers

◆ Fundraise for Financing

- Grants
 - LMOP
 - Federal
 - State
 - Foundation
- Tax Credits
 - Section 29 and 45
- Emissions Credits/Green Tags
 - Could add additional value
- Other Incentives?

Anticipate Benefits: Unique & Innovative

Unique and Innovative:

- Proactive future planning to utilize all of the gas
- Uses buffer zone (land) and the LFG/renewable energy (power) to attract new industry
- Create and economic development zone in the buffer area
- Investigates the feasibility of co-locating renewable resources and creating a renewable energy park
- Viable option for smaller landfills
- Viable option for sites without end users nearby



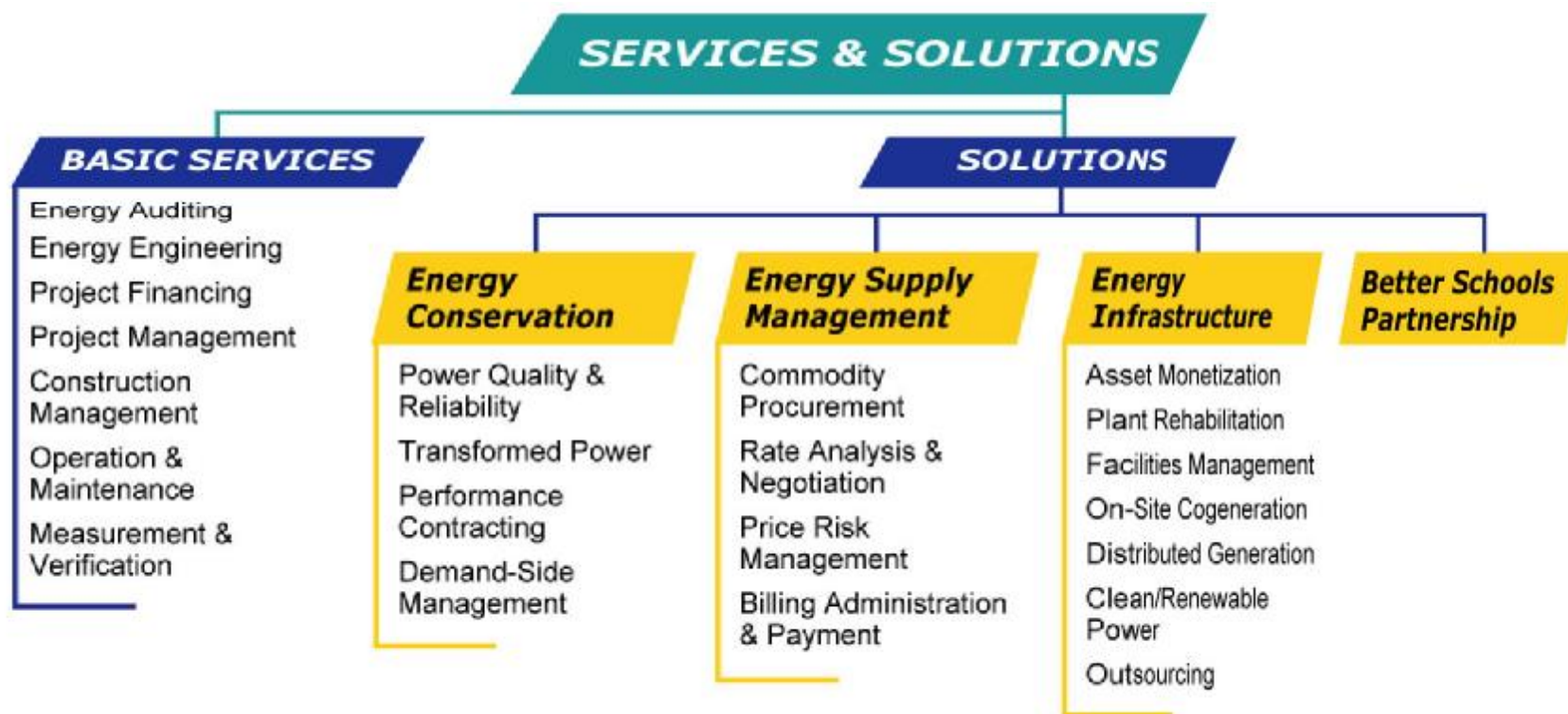
Ameresco LFG Expertise

- ◆ **Experienced project team, assisted with numerous LFG projects**
 - Jerry Leone, General Manager Rochester, NY
 - Shelley Cohen Washington, DC
 - Linda Nutting Charlotte, NC
 - Jeff Stander Wixom, MI
 - Matt Wells Atlanta, GA

- ◆ **Two operational and two projects under construction**
- ◆ **Innovative, custom-tailored technical solutions**
- ◆ **Capital available to fund project development investments**
- ◆ **Ability to maximize savings in a timely manner**
- ◆ **Successful track record – on time and on budget**
- ◆ **Commitment to 100% customer satisfaction**

Ameresco: Energy Efficiency Expertise

- ◆ **Nearly 30 years experience managing energy supply, usage, and assets**
 - Developed over \$2 billion in facility renewal/ efficiency improvement projects
 - Federal qualified ESPC contractor



For More Information

Raleigh County Solid Waste Authority

James Allen

Phone: 304-255-9196

Email: jallen@raleigh-swa.org

Shelley Cohen

Ameresco

Phone: 202-756-2496

Email: scohen@ameresco.com

